

a composition comprising a benzonaphthyridine TLR7 agonist of Formula (I) described herein, or salt, solvate, or derivative thereof. One aspect of the invention provides a method of potentiating an immune response in a subject who has been exposed to a hemorrhagic fever virus, comprising administering to said subject a pharmaceutically effective amount of a composition comprising a benzonaphthyridine TLR7 agonist of Formula (II) described herein, or salt, solvate, or derivative thereof. One aspect of the invention provides a method of potentiating an immune response in a subject who has been exposed to a hemorrhagic fever virus, comprising administering to said subject a pharmaceutically effective amount of a composition comprising a benzonaphthyridine TLR7 agonist of Formula (VIII) described herein, or salt, solvate, or derivative thereof.

[0015] One aspect of the invention provides a method of treating a subject who has been exposed to a hemorrhagic fever virus, comprising administering to said subject a pharmaceutically effective amount of a composition comprising a benzonaphthyridine TLR7 agonist of Formula (I) described herein, or salt, solvate, or derivative thereof. One aspect of the invention provides a method of treating a subject who has been exposed to a hemorrhagic fever virus, comprising administering to said subject a pharmaceutically effective amount of a composition comprising a benzonaphthyridine TLR7 agonist of Formula (II) described herein, or salt, solvate, or derivative thereof. One aspect of the invention provides a method of treating a subject who has been exposed to a hemorrhagic fever virus, comprising administering to said subject a pharmaceutically effective amount of a composition comprising a benzonaphthyridine TLR7 agonist of Formula (VIII) described herein, or salt, solvate, or derivative thereof.

[0016] Another aspect of the invention provides a method for inducing an immune response to a hemorrhagic fever virus, comprising administering to a subject an immunogenic composition comprising: (a) a benzonaphthyridine TLR7 agonist of Formula (I) described herein, or salt, solvate, or derivative thereof, and (b) an antigen from a hemorrhagic fever virus. Another aspect of the invention provides a method for inducing an immune response to a hemorrhagic fever virus, comprising administering to a subject an immunogenic composition comprising: (a) a benzonaphthyridine TLR7 agonist of Formula (I) described herein, or salt, solvate, or derivative thereof; (b) an antigen from a hemorrhagic fever virus; and (c) an adjuvant.

[0017] Another aspect of the invention provides a method for inducing an immune response to a hemorrhagic fever virus, comprising administering to a subject an immunogenic composition comprising: (a) a benzonaphthyridine TLR7 agonist of Formula (II) described herein, or salt, solvate, or derivative thereof, and (b) an antigen from a hemorrhagic fever virus. Another aspect of the invention provides a method for inducing an immune response to a hemorrhagic fever virus, comprising administering to a subject an immunogenic composition comprising: (a) a benzonaphthyridine TLR7 agonist of Formula (II) described herein, or salt, solvate, or derivative thereof; (b) an antigen from a hemorrhagic fever virus; and (c) an adjuvant.

[0018] Another aspect of the invention provides a method for inducing an immune response to a hemorrhagic fever virus, comprising administering to a subject an immunogenic composition comprising: (a) a benzonaphthyridine TLR7 agonist of Formula (VIII) described herein, or salt, solvate, or derivative thereof, and (b) an antigen from a hemorrhagic

fever virus. Another aspect of the invention provides a method for inducing an immune response to a hemorrhagic fever virus, comprising administering to a subject an immunogenic composition comprising: (a) a benzonaphthyridine TLR7 agonist of Formula (VIII) described herein or salt, solvate, or derivative thereof; (b) an antigen from a hemorrhagic fever virus; and (c) an adjuvant. In another aspect, the adjuvant is an aluminum-containing adjuvant or MF59.

[0019] Another aspect of the invention provides a method for inducing an immune response to a hemorrhagic fever virus, comprising administering to a subject an immunogenic composition comprising a benzonaphthyridine TLR7 agonist of Formula (I) described herein or salt, solvate, or derivative thereof. Another aspect of the invention provides a method for inducing an immune response to a hemorrhagic fever virus, comprising administering to a subject an immunogenic composition comprising a benzonaphthyridine TLR7 agonist of Formula (II) described herein or salt, solvate, or derivative thereof. Another aspect of the invention provides a method for inducing an immune response to a hemorrhagic fever virus, comprising administering to a subject an immunogenic composition comprising a benzonaphthyridine TLR7 agonist of Formula (VIII) described herein or salt, solvate, or derivative thereof. The induced immune response can be characterized by a cytokine profile. For example, the cytokine profile can include one or more cytokines selected from the group consisting of IFN- γ , IL-12 p40, IL-1 β , IL-6, MCP-1, mKC, TNF- α , and combinations thereof. In one aspect, the cytokine profile comprises IFN- γ , IL-12 p40, IL-1 β , IL-6, MCP-1, mKC, and TNF- α .

[0020] Another aspect of the invention provides a method of treating a subject who has been exposed to a hemorrhagic fever virus, comprising administering to the subject a pharmaceutically effective amount of a composition comprising: (a) a benzonaphthyridine TLR7 agonist of Formula (I), Formula (II), or Formula (VIII) described herein, or salt, solvate, or derivative thereof, and (b) an antiviral agent. In some aspects, the antiviral agent is ribavirin.

[0021] Another aspect of the invention provides an immunogenic composition comprising: (a) a benzonaphthyridine TLR7 agonist of Formula (I) described herein, or salt, solvate, or derivative thereof, and (b) an antigen from a hemorrhagic fever virus. Another aspect of the invention provides an immunogenic composition comprising: (a) a benzonaphthyridine TLR7 agonist of Formula (I) described herein, or salt, solvate, or derivative thereof, (b) an antigen from a hemorrhagic fever virus; and (c) an adjuvant.

[0022] Another aspect of the invention provides an immunogenic composition comprising: (a) a benzonaphthyridine TLR7 agonist of Formula (II) described herein, or salt, solvate, or derivative thereof, and (b) an antigen from a hemorrhagic fever virus. Another aspect of the invention provides an immunogenic composition comprising: (a) a benzonaphthyridine TLR7 agonist of Formula (II) described herein, or salt, solvate, or derivative thereof, (b) an antigen from a hemorrhagic fever virus; and (c) an adjuvant.

[0023] Another aspect of the invention provides an immunogenic composition comprising: (a) a benzonaphthyridine TLR7 agonist of Formula (VIII) described herein, or salt, solvate, or derivative thereof, and (b) an antigen from a hemorrhagic fever virus. Another aspect of the invention provides an immunogenic composition comprising: (a) a benzonaphthyridine TLR7 agonist of Formula (VIII) described